

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-30. (Cancelled)

31. (New) A method for identifying Tr1-regulatory lymphocytes present in a biological sample comprising lymphocytes, the method comprising:

- a) determining a simultaneous presence of expression products of genes encoding the CD4 molecule and all of the molecules of group A by said lymphocytes, wherein said group A is selected from the group consisting of A) CD18 and CD11a, and CD49b molecules, B) CD18 and CD49b molecules and C) CD11a and CD49b; and
- b) identifying, as the Tr1-regulatory lymphocytes, the lymphocytes that simultaneously express the genes.

32. (New) The method according to claim 31, wherein:  
- said determining comprises comparing an expression of at least one gene selected from the genes encoding the molecules of the group B consisting of CD11a, CD18, PSGL-1, PECAM-1 and alphaV/beta3, by said lymphocytes and by Th1 or Th2 lymphocytes; and

- said identifying comprises identifying, as Tr1-regulatory lymphocytes, of the lymphocytes that overexpress said at least one gene.

33. (New) The method according to claim 32, wherein said comparing comprises comparing the expression of at least two of said genes encoding the molecules of the group B and wherein said identifying comprises identifying as Tr1-regulatory lymphocytes, the lymphocytes that overexpress said two genes.

34. (New) The method according to claim 33, wherein said comparing comprises comparing the expression of all of the genes encoding the molecules of the group B and wherein said identifying comprises identifying, as Tr1-regulatory lymphocytes, the lymphocytes that overexpress said all of the genes.

35. (New) The method according to claim 31, wherein said determining, additionally and simultaneously, the presence of the expression product by said lymphocytes of the gene encoding the CD3 molecule and in that step (b) consists of identifying, as Tr1-regulatory lymphocytes, the lymphocytes that also simultaneously express the gene encoding the CD3 molecule.

36. (New) The method according to claim 31, wherein said determining is performed at the surface of said lymphocytes.

37. (New) The method according to claim 36, wherein said determining is performed using antibodies specific to said molecules.

38. (New) The method according to claim 37, wherein said antibodies are marked with a marker.

39. (New) The method according to claim 38, wherein each of said antibodies is marked by a different marker.

40. (New) The method according to claim 38, said markers are fluorescent markers selected from the group consisting of fluorescein isothiocyanate (FITC), or allophycocyanin (APC), phycoerythrin-cyanin 5 (PC5), phycoerythrin (PE), green fluorescent fluorescein diacetate, calcein AM and red fluorescent tetramethyl rhodamine.

41. (New) The method according to claim 36, wherein said determining is implemented by flow cytometry.

42. (New) The method according to claim 41, wherein said determining, for the CD18 molecule, comprises determining the presence of a CD 18 bright fluorescence intensity.

43. (New) The method according to claim 42, wherein:
- said comparing is carried out by comparing an amount of mRNA expressed for said gene; and
  - wherein said identifying comprises identifying, the lymphocytes that overexpress the mRNA of said gene.

44. (New) The method according to claim 43, wherein the amount of mRNA is measured by quantitative RT-PCR.

45. (New) The method according to claim 31 wherein in that the biological sample is from a peripheral blood sample or an inflammatory organ in a subject.

46. (New) The method according to claim 45, wherein the subject is affected or likely to be affected by an autoimmune or inflammatory disease.

47. (New) The method according to claim 46, wherein said subject has Crohn's disease or multiple sclerosis.

48. (New) The method according to claim 31 further comprising obtaining the biological sample from *in vitro* preparation of Tr1-regulatory lymphocytes using a lymphocyte population of from a sample of a subject.

49. (New) The method according to claim 48, said obtaining comprises activating CD4+ T lymphocytes of said lymphocyte population in the presence of an antigen and interleukin 10.

50. (New) The method according to claim 48, wherein said obtaining comprises:

- (i) obtaining a biological sample containing artificial antigen-presenting cells that express a molecule of the HLA class-II system and a human LFA-3 molecule and that do not express any of co-stimulation molecules B7-1, B7-2, B7-H1, CD40, CD23 or ICAM-1;
- (ii) activating, *in vitro*, CD4+ T lymphocytes of said lymphocyte population in the presence of the selected antigen, presented by said artificial antigen-presenting cells; and

(iii) collecting, from said lymphocyte population, activated CD4+ lymphocytes comprising at least 10 % Tr1 lymphocytes specific to the selected antigen.

51. (New) The method according to claim 48, wherein said obtaining comprises:

- (i) obtaining, *in vitro*, a population of human progenitor cells capable of differentiating into dendritic cells;
- (ii) placing said human progenitor cells in a culture in the presence of IL-10 so as to obtain a population of said dendritic cells; and
- (iii) placing said human lymphocyte population in the presence of the dendritic cells.

52. (New) The method according to claim 31, wherein the expression products are mRNAs, and wherein said determining is performed by RT-PCR.

53. (New) A method for quantification of Tr1-regulatory lymphocytes present in a biological sample comprising lymphocytes, comprising:

- (a) determining a simultaneous presence of expression products of genes encoding the CD4 molecule and all of the molecules of group A by said lymphocytes, wherein said group A is selected from the group consisting of A) CD18 and CD11a, and CD49b molecules, B) CD18 and CD49b molecules and C) CD11a and CD49b;
- (b) identifying, as the Tr1-regulatory lymphocytes, the lymphocytes that simultaneously express the genes;
- (c) determining the proportion of the Tr1-regulatory lymphocytes with respect to the total amount of the lymphocytes or a particular fraction of the lymphocytes, present in said biological sample.

54. (New) A method for *in vitro* prognosis or diagnosis of an autoimmune or inflammatory disease in a tested subject, using a biological sample previously taken from said tested subject, comprising:

- (a) determining a simultaneous presence of expression products of genes encoding the CD4 molecule and all of the molecules of group A by lymphocytes in said biological sample, wherein said group A is selected from the group consisting of A) CD18 and CD11a, and CD49b molecules, B) CD18 and CD49b molecules and C) CD11a and CD49b;
- (b) identifying, as the Tr1-regulatory lymphocytes, the lymphocytes that simultaneously express the genes;
- (c) determining the proportion of the Tr1-regulatory-lymphocytes present in said biological sample with respect to the total amount of the lymphocytes or a particular fraction of the lymphocytes; and
- (d) comparing the proportion of said Tr1-regulatory lymphocytes with that in a biological sample taken from a healthy subject.

55. (New) The method according to claim 54, wherein said proportion is reduced in the tested subject compared to the healthy subject.

56. (New) A method for enrichment of Tr1-regulatory lymphocytes present in a biological sample comprising lymphocytes, comprising:

- (a) determining a simultaneous presence of expression products of genes encoding the CD4 molecule and all of the molecules of group A by said lymphocytes, wherein said group A is selected from the group consisting of A)CD18 and CD11a, and CD49b molecules, B) CD18 and CD49b molecules and C) CD11a and CD49b;

- (b) identifying, as the Tr1-regulatory lymphocytes, the lymphocytes that simultaneously express the genes;
- (c) removing a significant portion of the lymphocytes not simultaneously having said molecules from said sample.

57. (New) A method for treating an autoimmune or inflammatory disease, comprising administering to a patient in need thereof a population of Tr1 regulatory lymphocytes enriched by the method of claim 56.

58. (New) The method of claim 57, wherein said administering is at an inflammation area level.

59. (New) The method of claim 57, wherein the Tr1 regulatory lymphocytes are administered with an antigen capable of activating said lymphocytes *in vivo*.

60. (New) The method of claim 57, wherein said Tr1 regulatory lymphocytes are lymphocytes activated *in vitro* or *in vivo*.